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Three-Dimensional Modeling of the X-Ray Self-Emission Images on NIF Polar-Drive Implosions A.K. DAVIS, D.T. MICHEL, R.S. CRAXTON, R. EPSTEIN, M. HOHENBERGER, T.C. SANGSTER, P.B. RADHA, T. MO, D.H. FROULA, Laboratory for Laser Energetics, U. of Rochester — Polar-drive experiments are being performed on the National Ignition Facility (NIF) with indirect-drive phase plates that produce beam radii smaller than the target radius at best focus.[1] These smaller laser spots create shell nonuniformities around the equatorial region. These nonuniformities have been modeled with the hydrodynamics code *SAGE*,[2] which uses 3-D ray tracing to calculate the on-target laser intensity and estimate the azimuthal variations in ablation pressure. A new radiation transport postprocessor has been developed to use this data to calculate x-ray self-emission and the formation of x-ray images at the diagnostic plane of a framing camera. A comparison of measured, time-resolved self-emission images with images calculated from various simulations will be presented. This material is based upon work supported by the Department of Energy National Nuclear Security Administration under Award Number DE-NA0001944.

[1]P. B. Radha *et al.*, Phys. Plasmas **20**, 056306 (2013).
[2]R. S. Craxton and R. L. McCrory, J. Appl. Phys. **56**, 108 (1984).

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